

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

1. – 10. (Cancelled)

11. (Currently Amended) In a surgical navigation system a substantially minimally invasive dynamic reference frame for dynamically referencing portions of an anatomy, comprising:

a body portion selectively attachable to a portion of the anatomy;

a navigation portion to at least one of sense, and transmit, or
combinations thereof a characteristic; and

a holding section to hold said body portion relative to the portion of the anatomy;

wherein said holding section substantially non-invasively holds said body portion relative to the portion of the anatomy.

12. (Cancelled)

13. (Original) The surgical navigation system of Claim 11, wherein said characteristic includes at least one of an optical characteristic, a electro-magnetic characteristic, an acoustic characteristic, a light characteristic, and combinations thereof.

14. (Original) The surgical navigation system of Claim 11, wherein said navigation portion includes at least one coil to at least one of transmit and receive an electro-magnetic field.

15. (Original) The surgical navigation system of Claim 14, further comprising at least two coils positioned at an angle relative to one another;
wherein a plurality of degrees of freedom of movement of the navigation portion can be determined.

16. (Original) The surgical navigation system of Claim 11, wherein said holding section includes a tensioning member extending from said body portion to engage at least one of the portion of the anatomy or an area adjacent to a portion of the anatomy.

17. (Original) The surgical navigation system of Claim 11, wherein said holding section is operable to substantially eliminate dermal shift when said body portion is selectively attached to the portion of the anatomy.

18. (Original) The surgical navigation system of Claim 11, wherein said holding section includes a substantially moldable material that may be molded to a selected shape;

wherein said holding section is operable to substantially accurately repeatably engage the portion of the anatomy.

19. (Original) The surgical navigation system of Claim 11, further comprising:

a fiducial marker portion.

20. (Original) The surgical navigation system of Claim 11, wherein said holding section is contoured to the selected portion of the anatomy to allow for substantially repeatable placement of the holding section.

21. - 27. (Cancelled)

28. (New) In a surgical navigation system a substantially minimally invasive dynamic reference frame for dynamically referencing a portion of an anatomy, comprising:

a body portion selectively attachable to the portion of the anatomy;

a navigation portion associated with the body portion to at least one of sense a characteristic, transmit a characteristic, or combinations thereof; and

a holding section operable to contact an exterior of the portion of the anatomy to assist in holding the body portion relative to the portion of the anatomy.

29. (New) The surgical navigation system of Claim 28, wherein said body portion defines a volume enclosed by an outside surface;

wherein said body portion further defines a recess within the volume to receive the navigation portion.

30. (New) The surgical navigation system of Claim 29, wherein the navigation portion includes a coil of a conducting material;

wherein said characteristic is an electromagnetic field.

31. (New) The surgical navigation system of Claim 29, wherein the recess includes an elongated bore extending from a side of the body portion.

32. (New) The surgical navigation system of Claim 28, wherein said body portion and said holding section are formed of a single member.

33. (New) The surgical navigation system of Claim 32, wherein said single member is seamlessly and uniformly formed.

34. (New) The surgical navigation system of Claim 28, wherein said body portion and said holding section are selectively separable from one another;
wherein said holding section includes a plurality of holding sections operable to be selectively interconnected with said body portion.

35. (New) The surgical navigation system of Claim 34, wherein the plurality of holding sections includes at least one holding section operable to be interconnected with a surface of the anatomy, an orifice of the anatomy, or combinations thereof.

36. (New) The surgical navigation system of Claim 37, wherein the orifice of the anatomy includes an ear canal, an oral cavity, a nostril, or combinations thereof.

37. (New) The surgical navigation system of Claim 35, wherein the surface includes a skin surface, a contour of the ear, a contour of the abdomen, a contour of the nose, a contour of the chest, or combinations thereof.

38. (New) The surgical navigation system of Claim 28, further comprising:
a tensioning member operable to interact with the holding section to assist in holding the body portion relative to the portion of the anatomy.

39. (New) The surgical navigation system of Claim 28, wherein at least one of the body portion, the holding section, or combinations thereof define a localization divot.

40. (New) The surgical navigation system of Claim 28, wherein at least one of the body portion, the holding section, or combinations thereof define a recess having a surface positioned within the at least one of the body portion, the holding section, or combinations thereof.

41. (New) In a surgical navigation system a substantially minimally invasive dynamic reference frame for dynamically referencing a portion of an anatomy, comprising:

a first section defining a volume sized and operable to be positioned relative to the portion of the anatomy;

a tracking device associated with the first section to at least one of sense a characteristic, transmit a characteristic, or combinations thereof; and

a holding section associated with the first section and operable to assist in holding the first section relative to the portion of the anatomy.

42. (New) The surgical navigation system of Claim 41, wherein the first section and the holding section are formed as a seamless uniform member.

43. (New) The surgical navigation system of Claim 41, wherein at least one of the first section, the holding section, or combinations thereof defines a recess that is complimentary in shape to the tracking device and is operable to receive the tracking device substantially within the volume.

44. (New) The surgical navigation system of Claim 41, wherein the holding section is operable to project into an anatomical orifice of the anatomy.

45. (New) The surgical navigation system of Claim 41, wherein the holding section is sized and configured to substantially match a contour of the anatomy.

46. (New) The surgical navigation system of Claim 41, wherein the holding section includes a concave region bound on at least two sides by a first region and a second region where the first region and the second region are substantially planar with one another.

47. (New) The surgical navigation system of Claim 41, further comprising:
a tensioning member;
wherein the tensioning member is operable with the holding section to assist in holding the first section relative to the anatomy.

48. (New) The surgical navigation system of Claim 41, further comprising:
a fiducial portion.

49. (New) The surgical navigation system of Claim 41, further comprising:
a localization depression;
wherein the localization depression is defined by at least one of the first section, the holding section, or combinations thereof;
wherein the localization depression is operable to interact with a tool.

50. (New) The surgical navigation system of Claim 11, wherein said body portion includes an adhesive receiving section;

wherein said adhesive receiving section allows for the placement of the adhesive between said body portion and the anatomy to assist in fixing the body portion to the portion of the anatomy.